

Monkeypox: wealthy countries must avoid their COVID-19 mistakes

Having ignored the disease for decades, high-income countries must share vaccines and treatments quickly with other nations.

Cases of monkeypox continue to rise. A month ago, when the World Health Organization (WHO) decided against declaring the global outbreak of the viral disease a public health emergency of international concern (PHEIC), some 3,000 cases had been confirmed in more than 50 countries since the start of May. By 23 July, that number stood at more than 16,000 cases across 75 countries and territories, according to the WHO.

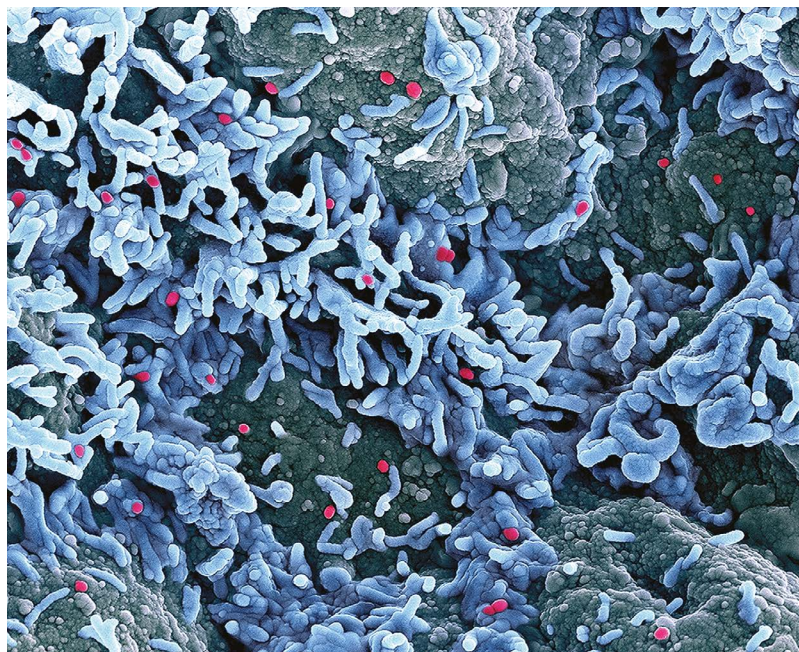
The WHO's expert advisers met again at the end of last week, and although the majority didn't support declaring a PHEIC, on 23 July the organization decided to go ahead. Now that a declaration has been made, nations must work together to tackle the outbreak and ensure that sufficient resources are provided to low- and middle-income countries (LMICs), where the disease has historically been most prevalent. Mistakes made over COVID-19 must not be repeated.

For example, no one benefits when there is competition for vaccines during an emergency – a widespread problem in many nations' COVID-19 responses. Smallpox vaccines are effective against monkeypox, but in LMICs both vaccine supply and diagnostic capacity are patchy. Vaccine donors need to collaborate with researchers and health officials to determine what each country requires to scale up its ability to respond to this infectious disease.

When a PHEIC is declared, the WHO recommends that nations commit to ramping up the manufacture and supply of diagnostic testing, medicines and vaccines. Research also tends to get a boost from governments, universities and industry – as happened with COVID-19.

The advisers opposed to declaring a PHEIC argued that the disease is treatable through targeted interventions. At present, the burden of disease is overwhelmingly being felt among men who have sex with men, in Europe and North America, and interventions could focus on vaccination in that community. But those supporting declaring a PHEIC argued that the necessary criteria have been met: the outbreak is an extraordinary event and the disease is a global public-health risk that requires a coordinated response.

Until this year, most cases of monkeypox were seen in people in Central and West Africa. In the current outbreak, all of the known fatalities (at least 70 suspected deaths so



Monkeypox particles (red) on the surface of infected cells.

“In an emergency it is senseless to compete for vaccine doses.”

far) have been in African countries, where studies have shown that young children, older people and those with low immunity have a higher risk of developing severe disease.

The Democratic Republic of the Congo has experienced thousands of suspected cases during the past decade, and in that time hundreds of people have died from a virulent strain that has a mortality rate of around 10% (Z. Jezek *et al. Trop. Geogr. Med.* **40**, 73–83; 1988). But the true figures are not known – and could be higher than estimates suggest.

In an all-too-common scenario, it has taken a health emergency in Europe and North America for the world to take notice of a disease. As Emmanuel Alakunle and Malachy Okeke at the American University of Nigeria in Yola write in a comment article in *Nature Reviews Microbiology*, the monkeypox outbreak should serve as “a wake-up call” that “highlights how little-to-no attention has been paid to the spread of the virus within endemic areas” (E. F. Alakunle and M. I. Okeke *Nature Rev. Microbiol.* <https://doi.org/h5v8;2022>).

Last month, Adesola Yinka-Ogunleye, an epidemiologist at the Nigeria Centre for Disease Control in Abuja, told *Nature* that epidemiologists have been warning for some years that monkeypox is spreading. “The world is paying the price for not having responded adequately,” she said.

The PHEIC declaration presents an opportunity to right this wrong. High-income countries in particular must learn from mistakes made over COVID-19. In an emergency it is senseless to compete for vaccine doses and treatments. Instead, diagnostics and vaccines should be shared and targeted to where they are most needed.

In an interview with US National Public Radio earlier this month, Atul Gawande, the official responsible for global health at the US Agency for International Development (USAID) in Washington DC, said that the lowest-income

countries tend to be the last to get vaccines. This is an important acknowledgement coming from a senior official at USAID, a major source of vaccines and treatments. There is little doubt that the world's poorest and most vulnerable were failed during the response to COVID-19. Vaccines that offer protection against monkeypox exist and they need to be used for the benefit of all. Wealthy countries must not make the same mistake twice.

Support Europe's bold vision for reforming research assessment

There have been many initiatives to combat the distorting effect of research-assessment exercises. The latest looks as if it might work.

Concerns that research-assessment systems are too narrow in what they measure are no longer new. Existing approaches favour individuals or teams that secure large grants, publish in journals with high impact factors – such as *Nature* – or register patents, at the expense of high-quality research that does not meet these criteria.

According to a report in November 2020 by the Research on Research Institute (RoRI) – a network of experts who study how research is done – this method of assessment puts pressure on the research community to succeed for the sake of performance metrics. It also increases the risk of violations of research ethics and integrity (see go.nature.com/3qzpgg). At the same time, it acts as a systemic bias against all those who do not conduct – or choose not to prioritize – research that meets criteria that can be measured with a number.

Concerns about the distorting effects of commonly used assessment procedures have already led to initiatives such as the San Francisco Declaration on Research Assessment (so far signed by more than 2,500 institutions, including *Nature's* publisher Springer Nature, and 19,000 individuals); the Leiden Manifesto for research metrics; the SCOPE principles established by the International Network of Research Management Societies; and the Metric Tide report, commissioned by UK funding bodies. There are, in fact, at least 15 distinct efforts urging policymakers, funders and heads of institutions to ensure that assessment systems minimize harm.

Many of the architects of these projects are becoming concerned that each subsequent initiative amounts to more (no doubt, valuable) talk, but less by way of practical action.

The Agreement on Reforming Research Assessment,



Assessments must be fair, the reasons transparent, and no researcher treated unfairly.”

announced on 20 July and open for signatures on 28 September, is perhaps the most hopeful sign yet of real change. More than 350 organizations have pooled experience, ideas and evidence to come up with a model agreement to create more-inclusive assessment systems. The initiative, four years in the making, is the work of the European University Association and Science Europe (a network of the continent's science funders and academies), in concert with predecessor initiatives. It has the blessing of the European Commission, but with an ambition to become global.

Signatories must commit to using metrics responsibly, for example by stopping what the agreement calls “inappropriate” uses of journal and publication-based metrics such as the journal impact factor and the *h*-index. They also agree to avoid using rankings of universities and research organizations – and where this is unavoidable, to recognize their statistical and methodological limitations.

Signatories must also pledge to reward more-qualitative factors, such as the standard of leadership and mentorship, including PhD supervision; as well as open science, including data sharing and collaboration. It is absolutely the case that the final research paper isn't the only indicator of research quality – other forms of outputs such as data sets, new article formats such as Registered Reports (*Nature* 571, 447; 2019) and more-transparent forms of peer review are equally important.

What makes this more than just another declaration of good intent is that the signatories are committing to creating an organization that will, in effect, hold themselves to account. In October, they will meet in a United Nations-style general assembly to review progress and to create a more permanent structure. Central to that structure will be the idea of giving researchers, especially early-career researchers, an influential voice. They need to be around the table with their institutions, with senior colleagues and funders – those whose assessment systems have been the source of much stress at the present time.

The agreement focuses on three types of research assessment, covering organizations, such as universities and departments; individual researchers and teams; and specific research projects. Each assessment type will almost certainly need different kinds of arrangements, and these, in turn, will vary from country to country.

But the point of this exercise is not to create one uniform method of assessing research. It is to enunciate principles that everyone can agree on before they embark on their assessments. Assessments must be fair, the reasons for decisions transparent, and no researcher must be disadvantaged or harmed. If excellence is to be the criterion, then this should not be confined to a narrow set of indicators (such as funding raised or publications in journals with high-impact factors), as *Nature* has argued consistently (*Nature* 435, 1003–1004; 2005). There is excellence in mentorship, in sharing data, in spending time building the next generation of scholars, and in identifying and giving opportunities to under-represented groups.

As the authors of the RoRI report say, the time for declarations is over. Research assessment must now start to change, to measure what matters.